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 <213> Homo sapiens

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 Ala Phe Val Leu Leu Thr Val Thr Ala Val Ile Val Gly Thr Ile Leu
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 Gly Phe Thr Leu Arg Pro Tyr Arg Met Ser Tyr Arg Glu Val Lys Tyr
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 Ser Lys Ala Ser Gly Lys Met Gly Met Arg Ala Val Val Tyr Tyr Met
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 Thr Thr Thr Ile Ile Ala Val Val Ile Gly Ile Ile Ile Val Ile Ile
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 145 150 155 160
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 Met Phe Pro Pro Asn Leu Val Glu Ala Cys Phe Lys Gln Phe Lys Thr
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 Asn Tyr Glu Lys Arg Ser Phe Lys Val Pro Ile Gln Ala Asn Glu Thr
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Val	Asn	Ala	Leu	Gly	Leu	Val	Val	Phe	Ser	Met	Cys	Phe	Gly	Phe	Val	245	250	255
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Ser	Leu	Asn	Glu	Ala	Ile	Met	Arg	Leu	Val	Ala	Val	Ile	Met	Trp	Tyr	275	280	285
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Tyr	Phe	Leu	Val	Thr	Arg	Lys	Asn	Pro	Trp	Val	Phe	Ile	Gly	Gly	Leu	340	345	350
Leu	Gln	Ala	Leu	Ile	Thr	Ala	Leu	Gly	Thr	Ser	Ser	Ser	Ser	Ala	Thr	355	360	365
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Arg	Val	Thr	Arg	Phe	Val	Leu	Pro	Val	Gly	Ala	Thr	Ile	Asn	Met	Asp	385	390	395
Gly	Thr	Ala	Leu	Tyr	Glu	Ala	Leu	Ala	Ala	Ile	Phe	Ile	Ala	Gln	Val	405	410	415
Asn	Asn	Phe	Glu	Leu	Asn	Phe	Gly	Gln	Ile	Ile	Thr	Ile	Ser	Ile	Thr	420	425	430
Ala	Thr	Ala	Ala	Ser	Ile	Gly	Ala	Ala	Gly	Ile	Pro	Gln	Ala	Gly	Leu	435	440	445
Val	Thr	Met	Val	Ile	Val	Leu	Thr	Ser	Val	Gly	Leu	Pro	Thr	Asp	Asp	450	455	460
Ile	Thr	Leu	Ile	Ile	Ala	Val	Asp	Trp	Phe	Leu	Asp	Arg	Leu	Arg	Thr	465	470	475
Thr	Thr	Asn	Val	Leu	Gly	Asp	Ser	Leu	Gly	Ala	Gly	Ile	Val	Glu	His	485	490	495
Leu	Ser	Arg	His	Glu	Leu	Lys	Asn	Arg	Asp	Val	Glu	Met	Gly	Asn	Ser	500	505	510
Val	Ile	Glu	Glu	Asn	Glu	Met	Lys	Lys	Pro	Tyr	Gln	Leu	Ile	Ala	Gln	515	520	525

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<211> 2654

<212> DNA

<213> Homo sapiens

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<212> PRT

<213> Homo sapiens

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Tyr Phe Gln Phe Pro Gly Glu Leu Leu Met Arg Met Leu Lys Met Met
      50           55           60

Ile Leu Pro Leu Val Val Ser Ser Leu Met Ser Gly Leu Ala Ser Leu
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Asp Ala Lys Thr Ser Ser Arg Leu Gly Val Leu Thr Val Ala Tyr Tyr
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Leu Trp Thr Thr Phe Met Ala Val Ile Val Gly Ile Phe Met Val Ser
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Ile Ile His Pro Gly Ser Ala Ala Gln Lys Glu Thr Thr Glu Gln Ser
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Gly Lys Pro Ile Met Ser Ser Ala Asp Ala Leu Leu Asp Leu Ile Arg
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Asn Met Phe Pro Ala Asn Leu Val Glu Ala Thr Phe Lys Gln Tyr Arg
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Thr Lys Thr Thr Pro Val Val Lys Ser Pro Lys Val Ala Pro Glu Glu
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Ala Pro Pro Arg Arg Ile Leu Ile Tyr Gly Val Gln Glu Glu Asn Gly
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Ser His Val Gln Asn Phe Ala Leu Asp Leu Thr Pro Pro Pro Glu Val
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Val Tyr Lys Ser Glu Pro Gly Thr Ser Asp Gly Met Asn Val Leu Gly
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Ile Val Phe Phe Ser Ala Thr Met Gly Ile Met Leu Gly Arg Met Gly
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Asp Ser Gly Ala Pro Leu Val Ser Phe Cys Gln Cys Leu Asn Glu Ser
      245          250          255

Val Met Lys Ile Val Ala Val Ala Val Trp Tyr Phe Pro Phe Gly Ile
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Val Phe Leu Ile Ala Gly Lys Ile Leu Glu Met Asp Asp Pro Arg Ala
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 Lys Cys Leu Leu Glu Asn Asn His Ile Asp Arg Arg Ile Ala Arg Phe
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Cys Val Asp Gly Ser Ser Ser Ser Phe Arg Ser Lys Lys Pro Ile Val
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Gly Val Ile Gly Pro Gly Ser Ser Ser Val Ala Ile Gln Val Gln Asn
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Leu Leu Gln Leu Phe Asn Ile Pro Gln Ile Ala Tyr Ser Ala Thr Ser
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Met Asp Leu Ser Asp Lys Thr Leu Phe Lys Tyr Phe Met Arg Val Val
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Pro Ser Asp Ala Gln Gln Ala Arg Ala Met Val Asp Ile Val Lys Arg
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Tyr Asn Trp Thr Tyr Val Ser Ala Val His Thr Glu Gly Asn Tyr Gly
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<212> DNA

<213> Homo sapiens

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His Gly Asp Ala Pro Thr Ala Ile Thr Gly Val Ile Gly Gly Ser Tyr
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<212> DNA

<213> Homo sapiens

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Lys Pro Cys Gly Glu Leu Lys Lys Glu Lys Gly Ile His Arg Leu Glu
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<212> DNA

<213> Homo sapiens

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Gly Val His Arg Leu Glu Ala Met Leu Tyr Ala Leu Asp Arg Val Asn
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Val Gln Ala Leu Ile Arg Gly Arg Gly Asp Gly Asp Glu Val Gly Val
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Arg Cys Pro Gly Gly Val Pro Pro Leu Arg Pro Ala Pro Pro Glu Arg
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Val Thr Leu Gly Gly Leu Phe Pro Val His Ala Lys Gly Pro Ser Gly
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Val Lys Pro Glu	Lys Val Val Gly	Val Ile Gly Ala	Ser Gly Ser Ser	145	150	155
Val Ser Ile Met	Val Ala Asn Ile	Leu Arg Leu Phe	Gln Ile Pro Gln	165	170	175
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Asp Glu Asp Ile	Lys Gln Ile Leu	Ala Ala Ala Lys	Arg Ala Asp Gln	290	295	300
Val Gly His Phe	Leu Trp Val Gly	Ser Asp Ser Trp	Gly Ser Lys Ile	305	310	315
Asn Pro Leu His	Gln His Glu Asp	Ile Ala Glu Gly	Ala Ile Thr Ile	325	330	335
Gln Pro Lys Arg	Ala Thr Val Glu	Gly Phe Asp Ala	Tyr Phe Thr Ser	340	345	350
Arg Thr Leu Glu	Asn Asn Arg Arg	Asn Val Trp Phe	Ala Glu Tyr Trp	355	360	365

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<210> 28

<211> 908

<212> PRT

<213> Homo sapiens

<400> 28

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Met Val Cys Glu Gly Lys Arg Ser Ala Ser Cys Pro Cys Phe Phe Leu
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Leu Thr Ala Lys Phe Tyr Trp Ile Leu Thr Met Met Gln Arg Thr His
      20              25              30

Ser Gln Glu Tyr Ala His Ser Ile Arg Val Asp Gly Asp Ile Ile Leu
      35              40              45

Gly Gly Leu Phe Pro Val His Ala Lys Gly Glu Arg Gly Val Pro Cys
      50              55              60

Gly Glu Leu Lys Lys Glu Lys Gly Ile His Arg Leu Glu Ala Met Leu
      65              70              75              80

Tyr Ala Ile Asp Gln Ile Asn Lys Asp Pro Asp Leu Leu Ser Asn Ile
      85              90              95

Thr Leu Gly Val Arg Ile Leu Asp Thr Cys Ser Arg Asp Thr Tyr Ala
      100              105              110

Leu Glu Gln Ser Leu Thr Phe Val Gln Ala Leu Ile Glu Lys Asp Ala
      115              120              125

Ser Asp Val Lys Cys Ala Asn Gly Asp Pro Pro Ile Phe Thr Lys Pro
      130              135              140

Asp Lys Ile Ser Gly Val Ile Gly Ala Ala Ala Ser Ser Val Ser Ile
      145              150              155              160

Met Val Ala Asn Ile Leu Arg Leu Phe Lys Ile Pro Gln Ile Ser Tyr
      165              170              175

Ala Ser Thr Ala Pro Glu Leu Ser Asp Asn Thr Arg Tyr Asp Phe Phe
      180              185              190

Ser Arg Val Val Pro Pro Asp Ser Tyr Gln Ala Gln Ala Met Val Asp
      195              200              205

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Ile Val Thr Ala Leu Gly Trp Asn Tyr Val Ser Thr Leu Ala Ser Glu
 210 215 220
 Gly Asn Tyr Gly Glu Ser Gly Val Glu Ala Phe Thr Gln Ile Ser Arg
 225 230 235 240
 Glu Ile Gly Gly Val Cys Ile Ala Gln Ser Gln Lys Ile Pro Arg Glu
 245 250 255
 Pro Arg Pro Gly Glu Phe Glu Lys Ile Ile Lys Arg Leu Leu Glu Thr
 260 265 270
 Pro Asn Ala Arg Ala Val Ile Met Phe Ala Asn Glu Asp Asp Ile Arg
 275 280 285
 Arg Ile Leu Glu Ala Ala Lys Lys Leu Asn Gln Ser Gly His Phe Leu
 290 295 300
 Trp Ile Gly Ser Asp Ser Trp Gly Ser Lys Ile Ala Pro Val Tyr Gln
 305 310 315 320
 Gln Glu Glu Ile Ala Glu Gly Ala Val Thr Ile Leu Pro Lys Arg Ala
 325 330 335
 Ser Ile Asp Gly Phe Asp Arg Tyr Phe Arg Ser Arg Thr Leu Ala Asn
 340 345 350
 Asn Arg Arg Asn Val Trp Phe Ala Glu Phe Trp Glu Glu Asn Phe Gly
 355 360 365
 Cys Lys Leu Gly Ser His Gly Lys Arg Asn Ser His Ile Lys Lys Cys
 370 375 380
 Thr Gly Leu Glu Arg Ile Ala Arg Asp Ser Ser Tyr Glu Gln Glu Gly
 385 390 395 400
 Lys Val Gln Phe Val Ile Asp Ala Val Tyr Ser Met Ala Tyr Ala Leu
 405 410 415
 His Asn Met His Lys Asp Leu Cys Pro Gly Tyr Ile Gly Leu Cys Pro
 420 425 430
 Arg Met Ser Thr Ile Asp Gly Lys Glu Leu Leu Gly Tyr Ile Arg Ala
 435 440 445
 Val Asn Phe Asn Gly Ser Ala Gly Thr Pro Val Thr Phe Asn Glu Asn
 450 455 460
 Gly Asp Ala Pro Gly Arg Tyr Asp Ile Phe Gln Tyr Gln Ile Thr Asn
 465 470 475 480
 Lys Ser Thr Glu Tyr Lys Val Ile Gly His Trp Thr Asn Gln Leu His
 485 490 495

Leu Lys Val Glu Asp Met Gln Trp Ala His Arg Glu His Thr His Pro
 500 505 510
 Ala Ser Val Cys Ser Leu Pro Cys Lys Pro Gly Glu Arg Lys Lys Thr
 515 520 525
 Val Lys Gly Val Pro Cys Cys Trp His Cys Glu Arg Cys Glu Gly Tyr
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 Asn Tyr Gln Val Asp Glu Leu Ser Cys Glu Leu Cys Pro Leu Asp Gln
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 Arg Pro Asn Met Asn Arg Thr Gly Cys Gln Leu Ile Pro Ile Ile Lys
 565 570 575
 Leu Glu Trp His Ser Pro Trp Ala Val Val Pro Val Phe Val Ala Ile
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 595 600 605
 Asn Asp Thr Pro Ile Val Arg Ala Ser Gly Arg Glu Leu Ser Tyr Val
 610 615 620
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 Ala Ala Pro Asp Thr Ile Ile Cys Ser Phe Arg Arg Val Phe Leu Gly
 645 650 655
 Leu Gly Met Cys Phe Ser Tyr Ala Ala Leu Leu Thr Lys Thr Asn Arg
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 Ile His Arg Ile Phe Glu Gln Gly Lys Lys Ser Val Thr Ala Pro Lys
 675 680 685
 Phe Ile Ser Pro Ala Ser Gln Leu Val Ile Thr Phe Ser Leu Ile Ser
 690 695 700
 Val Gln Leu Leu Gly Val Phe Val Trp Phe Val Val Asp Pro Pro His
 705 710 715 720
 Ile Ile Ile Asp Tyr Gly Glu Gln Arg Thr Leu Asp Pro Glu Lys Ala
 725 730 735
 Arg Gly Val Leu Lys Cys Asp Ile Ser Asp Leu Ser Leu Ile Cys Ser
 740 745 750
 Leu Gly Tyr Ser Ile Leu Leu Met Val Thr Cys Thr Val Tyr Ala Asn
 755 760 765
 Lys Thr Arg Gly Val Pro Glu Thr Phe Asn Glu Ala Lys Pro Ile Gly
 770 775 780

Phe Thr Met Tyr Thr Thr Cys Ile Ile Trp Leu Ala Phe Ile Pro Ile
785 790 795 800

Phe Phe Gly Thr Ala Gln Ser Ala Glu Lys Met Tyr Ile Gln Thr Thr
805 810 815

Thr Leu Thr Val Ser Met Ser Leu Ser Ala Ser Val Ser Leu Gly Met
820 825 830

Leu Tyr Met Pro Lys Val Tyr Ile Ile Ile Phe His Pro Glu Gln Asn
835 840 845

Val Gln Lys Arg Lys Arg Ser Phe Lys Ala Val Val Thr Ala Ala Thr
850 855 860

Met Gln Ser Lys Leu Ile Gln Lys Gly Asn Asp Arg Pro Asn Gly Glu
865 870 875 880

Val Lys Ser Glu Leu Cys Glu Ser Leu Glu Thr Asn Thr Ser Ser Thr
885 890 895

Lys Thr Thr Tyr Ile Ser Tyr Ser Asn His Ser Ile
900 905

<210> 29

<211> 499

<212> DNA

<213> Rattus sp.

<400> 29

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aaatgattga ttgtcattta tgcaggaaaa taatgctcct tttcaatata actaaacaga 180
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gttgtcagct ggggtctttg agcggatga agtcacctag taactttgtt tacagtgatc 360
caattttaa tgaattttct ccttaggatt attaatccaa cttaaaaaat tacttgataa 420
taatgattaa taaagatatg tgtagataat caatagctat taaatcttct aatttgtgtc 480
aatggtacca tgtactaat 499

<210> 30

<211> 1401

<212> DNA

<213> Rattus sp.

<400> 30

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ctggagcagt tgaaggctga gtgtcactac gtcaagggga gggagcatgt gtggagcgtg 180
accagattca tctataacca ggaagagttt gcccgtttg acagtgtctt tgggaagtgc 240
ctggcagtga ctgagctggg gcggcccata gctgagtact tgaacacca gaaggacatg 300

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ctggacaatt accgtgcctc tgtggacagg tgcagaaata actatgacct ggttgatatc 360
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<210> 31

<211> 466

<212> PRT

<213> Rattus sp.

<400> 31

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Met Gln Glu Val Gly Ser Leu Gln Val Ser Gln Phe Pro Ser Leu Thr
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Thr Ser Leu Gly His Cys Leu Ser Ser Gln Thr Ala Cys Asn Lys Ser
                20                      25                      30

Val Pro Val Pro Thr Ala Arg Phe Leu Glu Gln Leu Lys Ala Glu Cys
                35                      40                      45

His Tyr Val Lys Gly Arg Glu His Val Trp Ser Val Thr Arg Phe Ile
  50                      55                      60

Tyr Asn Gln Glu Glu Phe Ala Arg Phe Asp Ser Val Phe Gly Lys Phe
  65                      70                      75                      80

Leu Ala Val Thr Glu Leu Gly Arg Pro Ile Ala Glu Tyr Leu Asn Thr
                85                      90                      95

Gln Lys Asp Met Leu Asp Asn Tyr Arg Ala Ser Val Asp Arg Cys Arg
                100                      105                      110

Asn Asn Tyr Asp Leu Val Asp Ile Phe Met Ser Asn Leu Lys Ala Lys
                115                      120                      125

Pro Lys Val Thr Val Tyr Pro Ser Lys Thr Gln Pro Leu Glu Tyr His
                130                      135                      140

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Asn	Leu	Leu	Val	Cys	Ser	Val	Ser	Asp	Phe	Tyr	Pro	Gly	Thr	Ile	Glu	145	150	155	160
Ile	Arg	Trp	Phe	Arg	Asn	Gly	Glu	Glu	Glu	Lys	Thr	Gly	Val	Val	Ser	165	170	175	
Thr	Asp	Leu	Ile	Ser	Asn	Gly	Asp	Trp	Thr	Tyr	Gln	Thr	Leu	Val	Met	180	185	190	
Leu	Glu	Thr	Val	Pro	Gln	Gly	Gly	Glu	Val	Tyr	Thr	Cys	Gln	Val	Glu	195	200	205	
His	Pro	Ser	Leu	Thr	Ser	Pro	Val	Arg	Val	Glu	Trp	Arg	Ala	Arg	Ser	210	215	220	
Thr	Ser	Ala	Gln	Asn	Lys	Met	Leu	Ser	Gly	Ala	Met	Gly	Met	Ala	Leu	225	230	235	240
Gly	Leu	Phe	Ile	Leu	Ala	Val	Gly	Leu	Phe	Ile	Tyr	Leu	Arg	Asn	Leu	245	250	255	
Arg	Glu	Ala	Ser	Leu	Asp	Lys	Glu	Leu	Tyr	Tyr	His	Gly	Glu	Pro	Leu	260	265	270	
Asn	Val	Asn	Val	His	Val	Thr	Asn	Asn	Ser	Ala	Lys	Thr	Val	Lys	Lys	275	280	285	
Ile	Arg	Val	Ser	Val	Arg	Gln	Tyr	Ala	Asp	Ile	Cys	Leu	Phe	Ser	Thr	290	295	300	
Ala	Gln	Tyr	Lys	Cys	Pro	Val	Ala	Gln	Leu	Glu	Gln	Asp	Asp	Gln	Val	305	310	315	320
Ser	Pro	Ser	Ser	Thr	Phe	Cys	Lys	Val	Tyr	Thr	Ile	Thr	Pro	Leu	Leu	325	330	335	
Ser	Asp	Asn	Arg	Glu	Lys	Arg	Gly	Leu	Ala	Leu	Asp	Gly	Gln	Leu	Lys	340	345	350	
His	Glu	Asp	Thr	Asn	Leu	Ala	Ser	Ser	Thr	Ile	Val	Lys	Glu	Gly	Ala	355	360	365	
Asn	Lys	Glu	Val	Leu	Gly	Ile	Leu	Val	Ser	Tyr	Arg	Val	Lys	Val	Lys	370	375	380	
Leu	Val	Val	Ser	Arg	Gly	Gly	Asp	Val	Ser	Val	Glu	Leu	Pro	Phe	Val	385	390	395	400
Leu	Met	His	Pro	Lys	Pro	His	Asp	His	Ile	Thr	Leu	Pro	Arg	Pro	Gln	405	410	415	
Ser	Ala	Pro	Arg	Glu	Ile	Asp	Ile	Pro	Val	Asp	Thr	Asn	Leu	Ile	Glu	420	425	430	

Phe Asp Thr Asn Tyr Ala Thr Asp Asp Asp Ile Val Phe Glu Asp Phe
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Ala Arg Leu Arg Leu Lys Gly Met Lys Asp Asp Asp Cys Asp Asp Gln
 450 455 460

Phe Cys
 465

<210> 32
 <211> 20
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> Description of Artificial Sequence: Synthetic
 primer

<400> 32
 gagcattggt gcagccagta 20

<210> 33
 <211> 20
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> Description of Artificial Sequence: Synthetic
 primer

<400> 33
 gtctgagaac aagacaaagg 20

<210> 34
 <211> 20
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> Description of Artificial Sequence: Synthetic
 primer

<400> 34
 ggtagaagcc tgctttaaac 20

<210> 35
 <211> 20
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<220>
 <223> Description of Artificial Sequence: Synthetic primer

 <400> 35
 ccaaggttct tcctcaacac 20

 <210> 36
 <211> 19
 <212> DNA
 <213> Artificial Sequence

 <220>
 <223> Description of Artificial Sequence: Synthetic primer

 <400> 36
 tgagagctgt caggagagc 19

 <210> 37
 <211> 21
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 <220>
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 <210> 38
 <211> 39
 <212> DNA
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 <223> Description of Artificial Sequence: Synthetic primer

 <400> 38
 tatttaggtg acactatagg agcattggtg cagccagta 39

 <210> 39
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 <212> DNA
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<220>

<223> Description of Artificial Sequence: Synthetic primer

<400> 39

tatttaggtg acactatagg tctgagaaca agacaaagg

39

<210> 40

<211> 39

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic primer

<400> 40

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39

<210> 41

<211> 39

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic primer

<400> 41

taatacgact cactataggg gccaaagggtc ttcctcaac

39

<210> 42

<211> 40

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic primer

<400> 42

taatacgact cactataggg gtgagagctg tcaggagagc

40

<210> 43

<211> 42

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic primer

<400> 43

taatacgact cactataggg gggcatgaat gaggaggccg ac

42

<210> 44

<211> 20

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic primer

<400> 44

gagctggaca ccattgactc

20

<210> 45

<211> 20

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic primer

<400> 45

gactgcgtct tggtcatttc

20

<210> 46

<211> 24

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic primer

<400> 46

caacaccgaa tgcacgaaga catc

24

<210> 47

<211> 21

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic
primer

<400> 47

atgagtgcaa ggtaactctg g

21

<210> 48

<211> 20

<212> DNA

<213> Artificial Sequence

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<223> Description of Artificial Sequence: Synthetic
primer

<400> 48

tcacgtttcc aaggttcttc

20

<210> 49

<211> 24

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic
primer

<400> 49

ccaatggaaa gtcagctgac tgca

24